

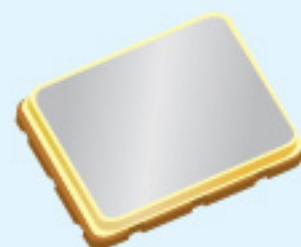
CRYSTAL OSCILLATOR



HUAFENG
CRYSTAL

HCO-103 Series

- Ceramic SMD package
- 3.3V supply voltage(2.5V available)
- HCMOS/TTL output
- Stability to ± 20 ppm
- Tri-state function available
- Reflow soldering is possible
- Available on tape and reel

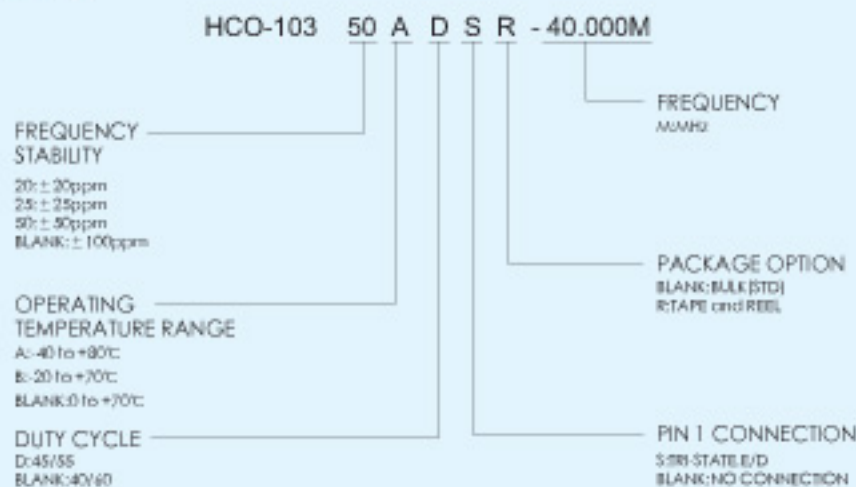


ELECTRICAL SPECIFICATIONS

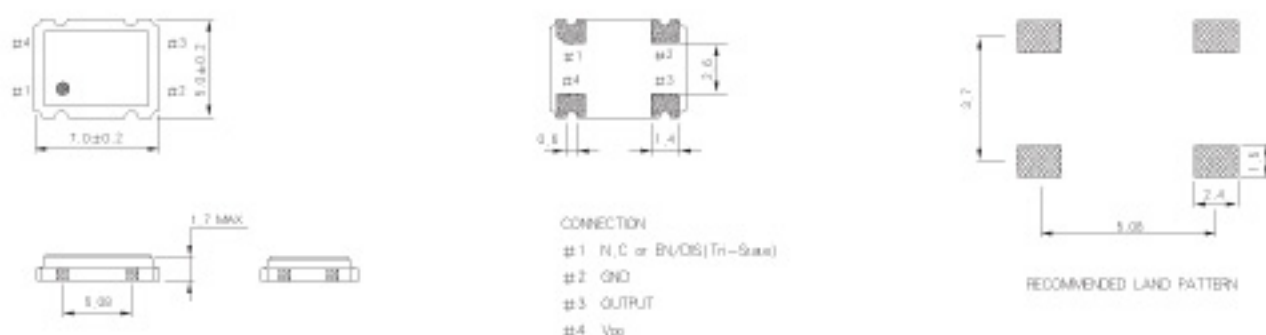
Frequency Range		1.000 to 125.000MHz
Operating Temperature Range	$\pm 100, \pm 50$ ppm or $\pm 25, \pm 20$ ppm	0 to +70°C or -40 to +85°C 0 to +70°C
Storage Temperature Range		-55 to +125°C
Frequency Tolerance/Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	$\pm 100, \pm 50$ ppm or $\pm 25, \pm 20$ ppm Max
Supply Voltage (Vcc)		3.3Vcc $\pm 10\%$ (+)
Input Current	1.000 to 34.999MHz 35.000 to 60.000MHz 60.001 to 99.999MHz 100.000 to 125.000MHz	16mA Max 25mA Max 40mA Max 50mA Max
Output Voltage Logic High(Voh)	w/TTL Load w/HCMOS Load	2.4Vcc Min 90% of Vcc Min
Output Voltage Logic Low(Vol)	w/TTL Load w/HCMOS Load	0.4Vcc Max 10% of Vcc Max
Rise/Fall Time	1.000 to 34.999MHz 35.000 to 99.999MHz 100.000 to 125.000MHz	10nsec Max 5nsec Max 2.5nsec Max
Duty Cycle	at 50% of Waveform w/HCMOS Load or 1.4Vcc w/TTL Load	50 \pm 10%[STD] 50 \pm 5%[Optional]
Load Drive Capability		10TTL Load or 15pF HCMOS Load(STD)
Pin 1 Tri-State Input Voltage	No Connection Vih ≥ 2.0 Vcc Vil ≤ 0.8 Vcc	Enables Output Enables Output Disables Output:High Impedance
Aging(at 25°C)		± 3 ppm, ± 5 ppm/year Max
Start-up Time		10msec Max
Period Jitter:Absolute		± 100 psec Max
Period Jitter:One Sigma		± 25 psec Max

(+) Supply Voltage of 2.5Vcc is available up to 50.000MHz

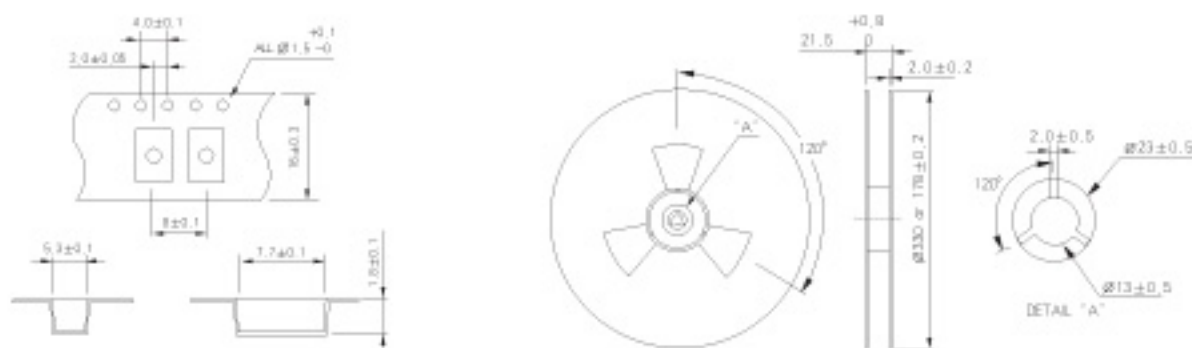
PART NUMBERING GUIDE



MECHANICAL DIMENSIONS



TAPE AND REEL DIMENSION



ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ± 5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ± 5°C for 5 seconds/95% coverage.
Marking Permanency	10 Stokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 50cm.
Thermal Shock	10 Cycles from -55°C to 125°C